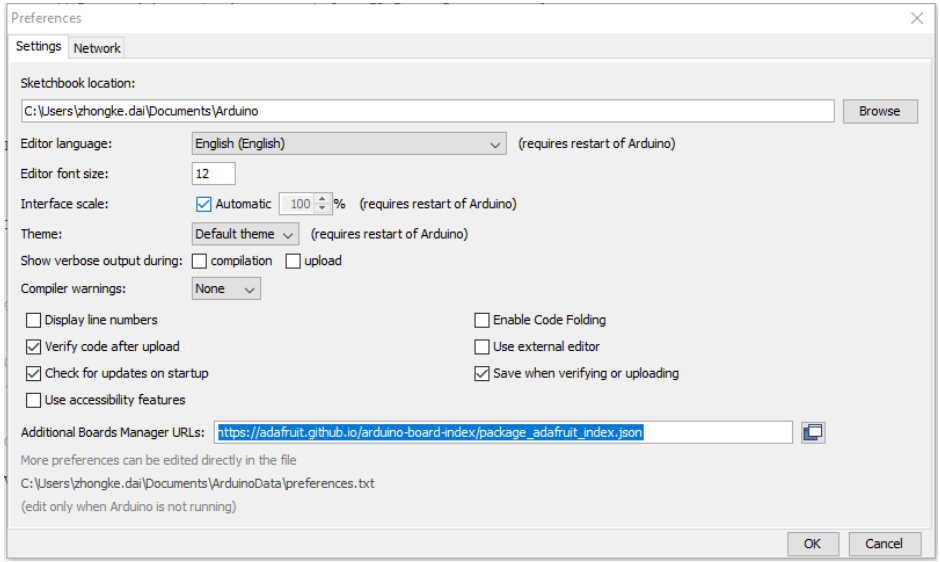
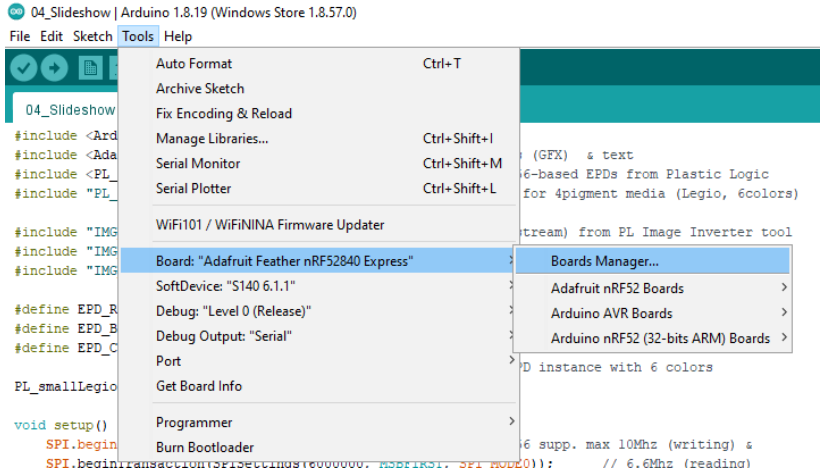
PLASTIC LOGIC

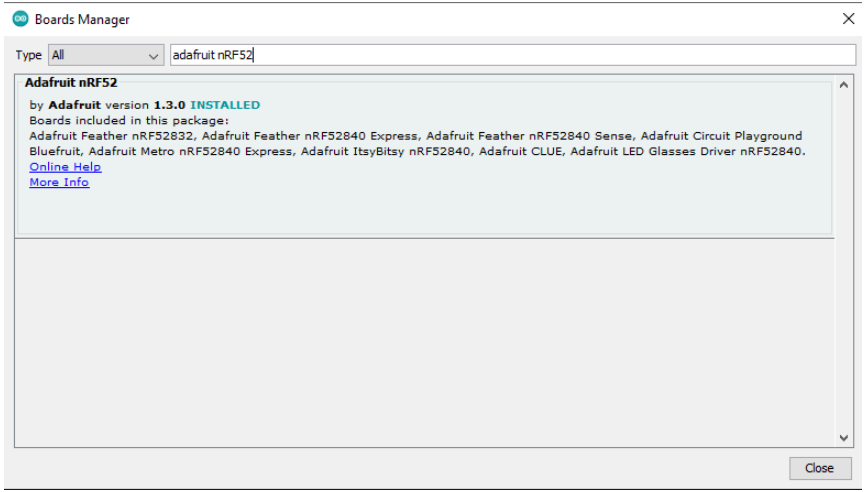
Adafruit Feather EvalKit instruction

1. **Arduino IDE** installed or download the latest version from here.
2. please add the new board to the Arduino IDE: Please go to **FILE** > **PREFERENCES** and add https://adafruit.github.io/arduino-board-index/package_adafruit_index.json as an Additional Board Manager URL

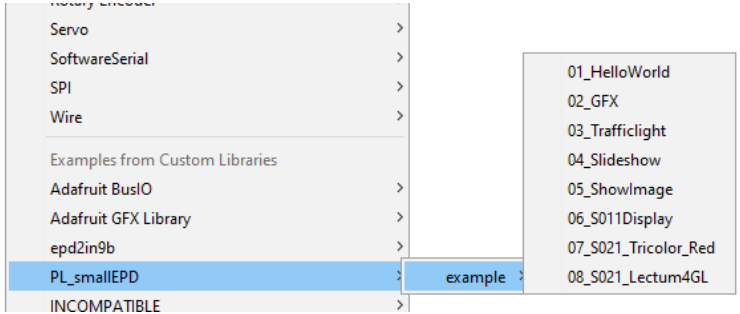


- After restart of the IDE please open the **Boards Manager** from the **Tools** -> **Board menu** and install **Adafruit nRF52 by Adafruit**. It will take a few minutes to finish installing the cross-compiling toolchain and associated tools. Then please select the board **Adafruit Feather nRF52840 Express**, and after connecting the board via USB, please select the newly appeared serial COM port for your device under **Tools --> Port** and you should be ready to go for programs.



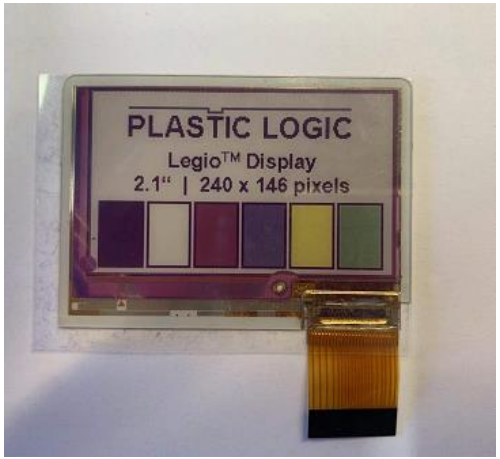


- Open the Tools -> Manager Libraries, search Adafruit GFX and download this library
- Then download the PL_smallEPD Arduino Library: plasticlogic/PL_smallEPD: This is a library for UC8156-based E-Paper displays (EPD) from Plastic Logic for Adafruits GFX library. (github.com)
- Unzip the library under the path: **C:\Users\xxxxx\Documents\Arduino\libraries**
- After restart the Arduino DIE you can find the example under **File > Example > PL_smallEPD > Examples**

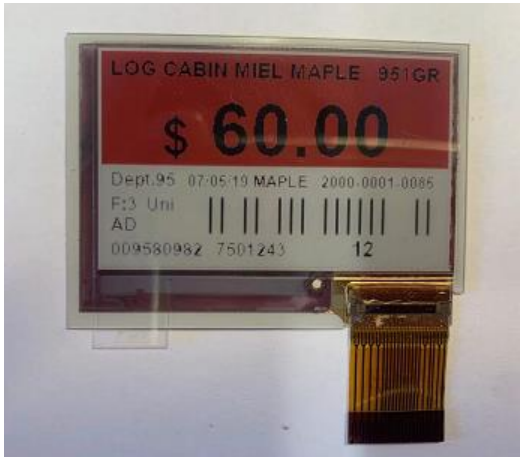


Example

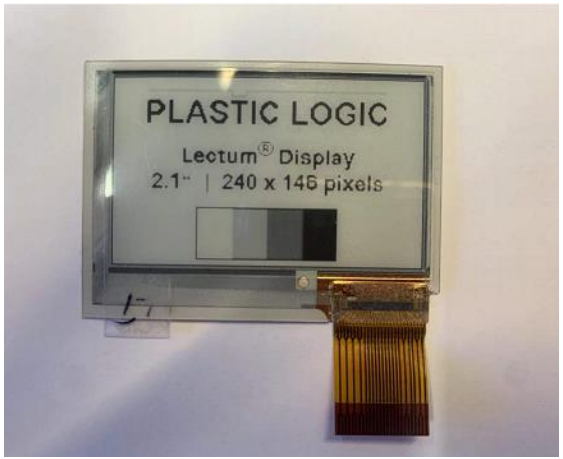
04_Slideshow -> 2.1“ Legio (6 colors)



07_S021_Tricolor_Red -> 2.1“ tricolor red

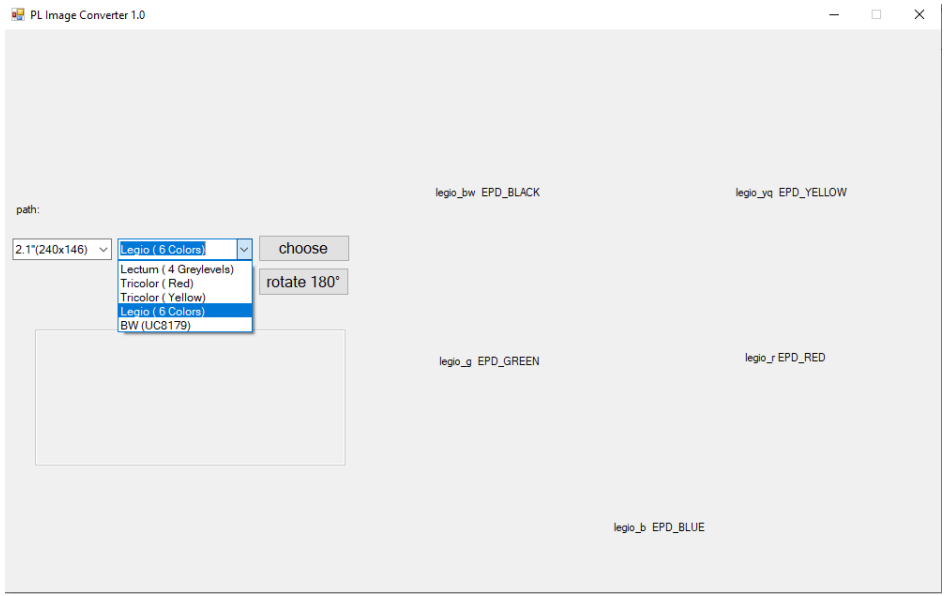


08_S021_Lectum4GL -> 2.1“ Lectum (4 grey levels)



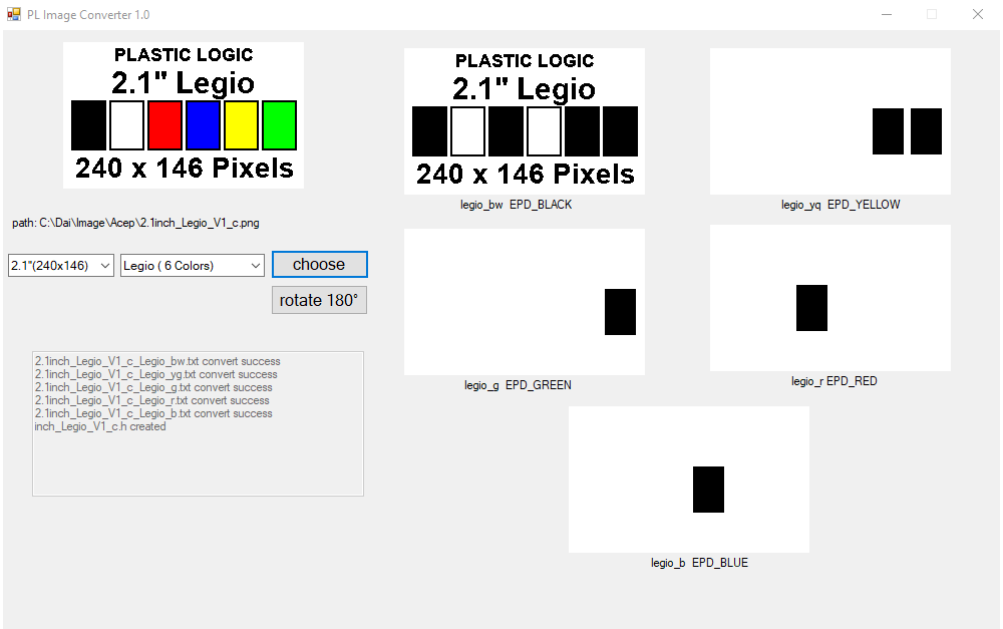
Support program

You can find the small program image converter, which with Microsoft Visual Studio supports these three displays . For execution Just download the PL_smallEPD_image_converter_exe.zip



Support program

Click choose and select your image with format “.jpg”, “.png”, “.bmp”, “.pgm”



A “.h“ head file will be automatically created.
Copy it to your arduino program folder and use it

RGB value

Lectum (4 GL) :

black(grey level 0) <0x00,0x00,0x00>;
grey level 4 <0x44,0x44,0x44>;
grey level 11 <0xAA,0xAA,0xAA>;
white(grey level 15) <0xFF,0xFF,0xFF>

Legio (6 colors):

black <0,0,0>;
white <0xFF,0xFF,0xFF>;
red <0xFF,0x00,0x00>;
green <0x00,0xFF,0x00>;
blue <0xFF,0xFF,0xFF>;
yellow <0xFF,0xFF,0x00>;

Tolerance:

black: R<=0xCD && G<=0xCD && B<=0xCD;
white: R>=0xCE && G>=0xCE && B=>0xCE;
red: R>=0xAF && G<=0x50 && B<=0x50;
green: R<=0x50 && G>=0xAF && B<=0x50;
blue: R<=0x50 && G<=0x50 && B>=0xAF;
yellow: R>=0xAF && G>=0xAF && B<=0x50;